National Bee-Keepers' Convention at San Antonio, Texas,
Oct. 30, 31 and Nov. 1.

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WEEKLY—$1.00 A YEAR

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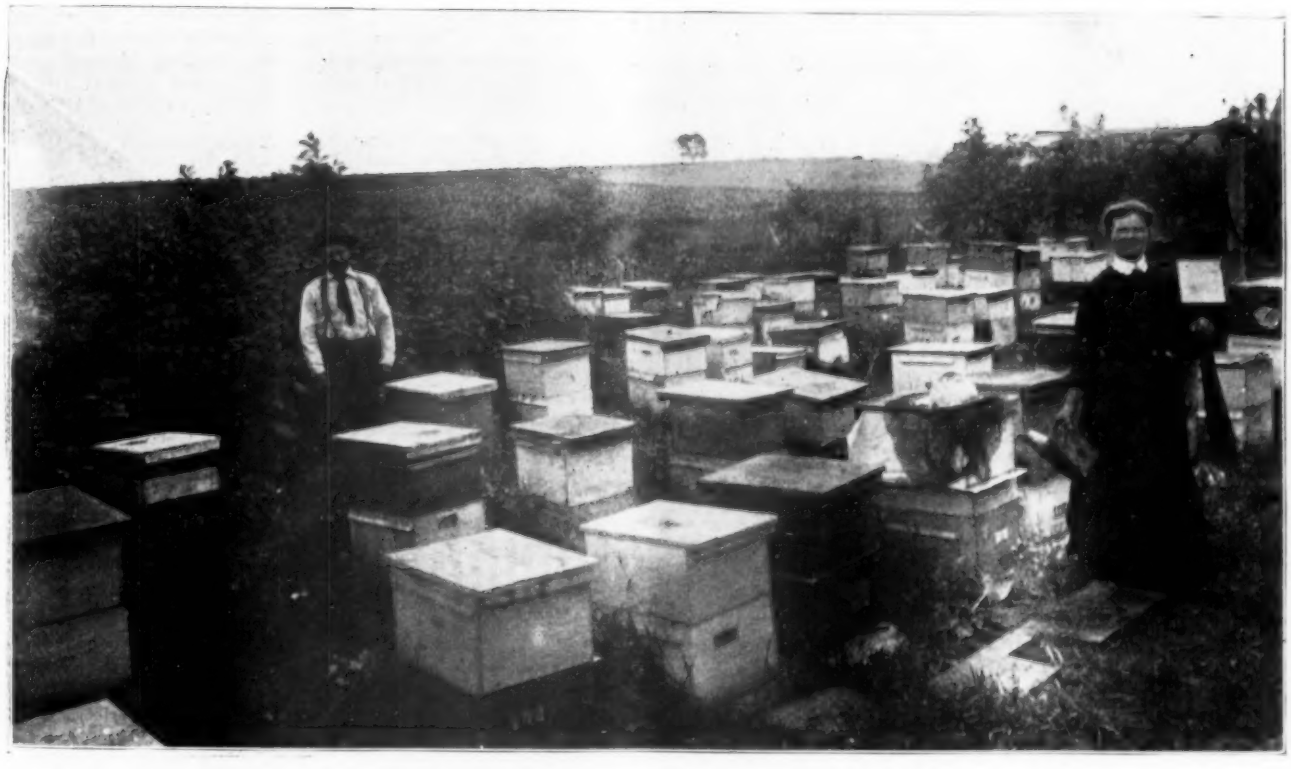

APIARY OF MRS. AND MR. JAMES HONAKER, OF VERNON CO., WIS.
(See page 602).

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Objects of the Association

1st.—To promote the interests of its members.
2d.—To protect and defend its members in their lawful rights.
3d.—To enforce laws against the adulteration of honey.

Annual Membership Dues, $1.00

General Manager and Treasurer—
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(INCORPORATED)

OBJECTS:

1. To create a larger demand for honey through advertising.
2. To publish facts about honey, and counteract misrepresentations of the same.

MEMBERSHIP DUES

1. Any bee-keeper may become a member by paying to the Manager an annual fee of $1.00 for each 20 (or fraction of 20) colonies of bees (spring count) he owns or operates.
2. Any honey-dealer, bee-supply dealer, bee-supply manufacturer, bee-paper publisher, or any other firm or individual, may become a member on the annual payment of a fee of $10, increased by one-fifth of one (1) percent of his or its capital used in the allied interests of bee-keeping.

GEORGE W. YORK, Manager,
334 Dearborn St., CHICAGO, ILL.

Italian Queen-Bee Free as a Premium

To a subscriber whose own subscription to the American Bee Journal is paid at least to the end of 1905, we will give an untested Italian queen for sending us ONE NEW subscription with $1.00 for the Bee Journal a year. Now is the time to get new subscribers. If you wish extra copies of the Bee Journal for use as samples, let us know how many you want and we will mail them to you. Address all orders to the office of the American Bee Journal.

What is the United States Government Doing for the Bee-Keeper?

A general view of the Experimental Apiary of the U. S. Government, at Washington, D.C., in charge of Frank Benton. Photographed by D. E. Lyon.

Do You Know?

Do you realize to just what extent Uncle Sam has the interest of his bee-keepers at heart? Few do. To get the whole truth we have sent Mr. D. E. Lyon to Washington with instructions to place before the readers of Gleanings just what is being and what intends to be done by the Division of Apiculture of our great National Department of Agriculture at Washington. Mr. Lyon gives the results of his journey in the August 15th number of Gleanings. What he tells is intensely interesting, and every bee-keeper should know the facts. Mr. Lyon has also obtained some splendid photos, which are reproduced in this number.

Mr. Frank Benton, head of the Division of Apiculture, is now on a journey around the world in search of new Bees and Honey-Plants. Gleanings keeps in close touch with him, and its readers are always sure of obtaining news first hand of this most remarkable trip.

Grading Rules

In the August 15th issue of Gleanings is found another article of greatest practical value to bee-keepers. It is headed, "Comb Honey Grading Rules." Hardly one bee-keeper in ten understands grading, which is of such importance in marketing comb honey. For this reason there is much confusion and loss. Gleanings has written to the most prominent Honey Dealers all over the United States, and gives their replies in this number. It's an important thing to know how to grade your honey, and Gleanings tells you.

Superb Illustrations

The illustrations in the August 15th issue of Gleanings are typical of what its readers receive every number. Three full-page halftones, some smaller ones, and many line drawings illustrating the numerous short articles. The halftones are the work of the finest engravers in the United States, and are printed on the best paper, giving results that are hardly equaled in many high-class magazines. This item alone doubles the value.

Bee-Keepers Everywhere

Gleanings aims to make itself indispensable to *every* bee-keeper *everywhere*. It has succeeded. No progressive bee-keeper can afford to be without it. In every issue are departments that cover the peculiar conditions that are met in different parts of the country. The editors of these departments are the best practical bee-keepers in their respective localities. The best of bee-keepers everywhere contribute. A list of them would be a list of the most successful bee-keepers in the United States. What bee-keeper can not profit by reading the experiences of such men?

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1. Sample copy	Free
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Editorial Notes and Comments

Contradictions in the Bee-Papers

Occasionally the view is expressed that there are so many conflicting views in the bee-papers that it is discouraging; so discouraging that one would do better to give up such reading altogether. There is no disputing the fact. Just so long as you read bee-books and bee-papers you will find contradictions. If you never read a word about bees you would find contradictions in your own experience.

The contradictions you find in print sometimes are due to the fact that wrong views are entertained, and sometimes to the fact that what is true in one locality is not true in another, and often to the fact that some little difference in management is not recognized, but that same unrecognized difference in management makes a wide difference in results.

Often, too, the reader gets two opposite views from two different writers because said reader does not fully understand what one or both said. But if you keep on reading and studying, you will gradually get more and more of the tangles straightened out. It would be the height of folly to give up trying to obtain the advantage of the experience of others just because the experience of different writers is not always the same.

Big Purchase of Honey

Gleanings in Bee Culture chronicles the purchase in one consignment, by the National Biscuit Co., of *70 carloads of honey*. That is not because honey is the cheapest sweet. It is not because the National Biscuit Co. lacks business capacity, and recklessly spends money for a higher-priced article when something else as good could be bought for less money. It is because honey gives to the goods in whose manufacture it is used a keeping quality that can be had in no other way. If it is a profitable thing for this money-making company thus to use honey, why is it not just as profitable in the home of every bee-keeper? Instead of making a fresh cake "when company comes," said cake to be kept till thrown away when dry and stale, why not make that which will keep the year around?

In all cooking, honey may be used in place of sugar, only keeping in mind that less moisture must be used with honey than with sugar.

Selling Comb Honey in Frames

For some this may be an advisable thing. Here's the way L. L. Grass does it, as reported in Gleanings in Bee Culture:

I produce comb honey by using extracting-supers and shallow extracting-frames with starters. These weigh from 3½ to 5 pounds when filled out, according to thickness of comb in a frame. This I sell at 15 cents a pound by the frame or frames. I weigh it before starting, and put the weight of each frame on the top-bar. Customers seem to appreciate that style of package, and I very seldom fail to make a sale to those who need honey, after I have held it up to the light to let them see the clearness.

I carry it to market in the supers by tacking a strip of wood half way down the ends of the supers with slots sawed out to hold 8 frames to a 10-frame super. That keeps them from rubbing and breaking the cappings when some combs are thicker than others after grading. It also keeps them from sliding, which they would do after the first frame is taken out.

Slow Introduction of Queens

There are conditions in which a queen will be promptly and kindly received, no preliminary caution being necessary. The queen is simply dropped into the hive or run in at the entrance, and all is well. But there is always some risk, and, as a general rule, the element of time is an important factor. The queen is sometimes caged in the hive for a certain length of time, then set free upon the combs by the bee-keeper, but generally it is planned to have her liberated by the bees. To make them longer in liberating her, the candy may be made quite hard, or pieces of cardboard may be nailed over the opening so that the bees must take time to gnaw away the card-board to get at the candy.

One of the American Bee Journal family thinks he has made an improvement over these plans. It is the very simple one of making as small as practicable the tube containing the plug of candy. Instead of having the diameter a half inch or so, it is only a quarter of an inch, allowing only one bee at a time to work at the candy. It will be readily seen that this will make slow work, but work that is pretty sure to go steadily forward, because the candy is fully exposed. With a small diameter, the time taken to liberate a queen in an introducing cage may be varied directly in proportion to the length of the tube.

Cleaning a Bee-Smoker

When a thick coating forms inside the smoker pour in a little kerosene and set fire to it, leaving the smoker open. The deposit can then be easily scraped off while hot and soft, or peeled off when cold. This from J. A. Green, in Gleanings in Bee Culture.

Sawdust for Smoker-Fuel

The question as to the best fuel for smokers is one largely of convenience. Each one is likely to have a preference for that which is most easily obtainable. To those who have unlimited quantities of sawdust at disposal, the very minute instructions of S. E. Miller, in the Progressive Bee-Keeper, may be of use. He says:

I used sawdust from under my buzz-saw table, which is mostly from pine or other soft wood, and the smoker is of the upright boiler (fire-pot) pattern, the kind now in general use.

Directions: First, put down on the grate a small wad of excelsior or fine shavings. In the absence of both of these use grass. Put on just enough to keep the sawdust from sifting down through the grate into the space beneath it. Next fill the fire-pot to within about three-fourths of an inch of the top with sawdust soaked and packed down until it is packed somewhat firm, but not too solid. Then with a pointed stick bore a hole down

in the center by running the stick down nearly to the grate and giving the upper end a rotary motion so as to form a funnel-shaped hole in the sawdust. Into this hole drop about a teaspoonful of kerosene. I keep a 10-cent oiler with kerosene (coal oil) in it where it is handy, and find it useful in firing up, even when I do not use sawdust.

Now light a match and drop it into the hole and set the smoker outside with the cover thrown back, and leave it so for 15 or 20 minutes. Do not close it too soon or it will smother out in short order. After it is well started put some green grass on top of the sawdust to act as a spark arrester and close it up. Give several puffs to make sure that it is well started, and if you have done everything just right, you will be ready for 3 or 4 hours' work without replenishing of fuel.

When it gets too hot and begins to throw sparks it will be necessary to grab up a bunch of green grass and put it on top to keep down the sparks.

Destroying Queen-Cells

Nearly every beginner, at some time in his career, conceives the idea that if he persistently destroys all queen-cells that are started, there will be no swarming. But he finds in time that bees will swarm in spite of such efforts, and concludes that the destruction of queen-cells has no effect whatever. Yet some experienced bee-keepers declare that in many cases destroying queen-cells one or more times is sufficient to prevent all swarming. Under such efforts some colonies will be prevented from swarming, others will not. The seasons may make a difference—undoubtedly do. Some seasons bees seem to have a mania for swarming; other seasons a good many colonies will make no attempt at it. Whether there is profit in destroying queen-cells is an open question.

Drone-Brood for Fish-Bait

Some years ago this was mentioned, and now it comes up again in Gleanings, more particulars being given. The knights of the rod "specify that the age of the brood shall be just before hatching, when the young drones are white. A young white drone is removed from the cell and strung on the hook. Its color and shape at once suggest to the fish a big, fat grub, and anglers say that fish will bite this bait as they will bite almost nothing else. It is especially adapted to all fish with large mouths like bass, bluegills, and the like."

Some Expert Opinion

More Honey from the Basswood Leaves or the Blossoms?

Ques. 29—*Is it true that the bees gather more from basswood leaves than from basswood blossoms?*

S. T. PETTIT (Ont.)—No.

O. O. POPPLETON (Fla.)—I don't know.

J. M. HAMBAUGH (Calif.)—I think not.

JAS. A. STONE (Ill.)—I do not think it is.

E. D. TOWNSEND (Mich.)—No, not in this locality.

L. STACHELHAUSEN (Tex.)—No basswood in this locality.

ADRIAN GETAZ (Tenn.)—No, unless in exceptional circumstances.

N. E. FRANCE (Wis.)—No. I did not know that basswood leaves yield honey.

G. M. DOOLITTLE (N. Y.)—Bees gather *nothing* from basswood leaves in *this locality*.

C. P. DADANT (Ill.)—I think not. I have never seen much from either, in this locality.

DR. J. P. H. BROWN (Ga.)—I can not answer, as I do not live in a basswood location.

EUGENE SECOR (Iowa)—Not in this locality. I never saw bees gather anything from basswood leaves.

E. WHITCOMB (Nebr.)—I do not know. It is at least 75 miles from my apiary to the nearest basswood tree.

J. A. GREEN (Colo.)—I think not. They may get honey sometimes from the leaves, but ordinarily, at least, not in any quantity.

DR. C. C. MILLER (Ill.)—I shouldn't suppose so. I've seen many a bee working on the blossoms, but never one on the leaves.

REV. M. MAHIN (Ind.)—I think not. I have never seen them gathering from leaves, and in my locality I am pretty sure they do not.

R. C. AIKIN (Colo.)—I never lived in a regular basswood region, and don't think leaves yield any except in cases of insect honey-dew.

P. H. ELWOOD (N. Y.)—I never saw our bees work on basswood leaves. I never suspected that they gathered an ounce from that source.

E. S. LOVESY (Utah)—As to quantity, I have had no experience on this question, but as to quality I would say that no real, pure nectar is collected by the bees from leaves such as they collect from the flowers. The product on the leaves is produced by a small insect of the aphid family; the dew softens it, and hence it is called "honey-dew," and bees and other insects gather it.

PROF. A. J. COOK (Calif.)—No, by no means. They gather wholly from flowers, except there are aphids or scale insects in the trees working on them.

MORGAN BROS. (S. Dak.)—Basswood leaves yield very little. Basswood honey is secreted in the calyx of the flower, and may be seen sparkling in the sunlight.

ARTHUR C. MILLER (R. I.)—Bees do not work on basswood leaves here. But basswoods are few and far between, the European linden taking their place, and the bees go only to the blossoms of that.

C. DAVENPORT (Minn.)—This is something I never heard of until lately. I never saw the bees work on the leaves, and I do not believe they ever do here. I will watch this matter closely in the future.

R. L. TAYLOR (Mich.)—Sometimes I have seen the bees apparently working a little on basswood before the blossoms are open, but not when they are open. But a trifle if any nectar is gathered from the leaves here.

MRS. J. M. NULL (Mo.)—I would like to know. I don't relish the notion of basswood honey-dew. We don't have it in this neck of the woods. All honey-dew, or at least most of it, is derived from hickory leaves here.

C. H. DIBBERN (Ill.)—I never knew that bees gathered any *honey* from basswood leaves. It is not true that they gather more from that source than from the blossoms, otherwise why do many bees visit the basswoods when not in bloom?

E. E. HASTY (Ohio)—I don't think it is a common state of things, although it may have happened sometimes, especially in recent years when the crop was small. 'Spects the old-fashioned 10-pounds-a-day basswood honey never came from the leaves.

WM. MCEVOY (Ont.)—No. Some seasons the bees gather honey-dew from the leaves, but this condition of affairs happens so rarely that it's not worth counting, and although it is really honey-dew it gets spoiled by the countless millions of "stuff" that feast upon and soil this class of honey.

G. W. DEMAREE (Ky.)—No, not in my locality. In fact, bees do not gather "honey" from the leaves of basswood, or any other kind of leaves. But under certain conditions, not very well understood, bees gather a dark, sweet substance (condensed sap) called "honey-dew." But in my locality honey-dew does not show up more than once in 5 years.

Contributed Special Articles

Bee-Paralysis and Pickled Brood

BY ADRIAN GETAZ

DURING the years from 1894 to 1896 quite a discussion on bee-paralysis occupied the bee-papers. Many articles and reports were written, and a number of remedies tried and the results reported. It must be remembered that at that time bee-paralysis seemed to have been much worse than usual. In fact, whole apiaries had been wiped out entirely.

It is in the early spring that the malady is the worst. It is shown by a large majority of the bees being hairless and shiny, as if they had been polished. At the same time they are stiff and sluggish in their movements, as if half-paralyzed. Those in which the disease is less advanced show it by uneasiness and frequent scratching and twisting of the wings and abdomen. As the season advances the old, shiny bees gradually die out, young bees emerge in large numbers and take their place. It is possible—even probable—that some at least of the young bees contract the disease when in the larval state, but as bee-paralysis is a slowly developing disease, they do not show the signs of it until some time after having emerged, more or less, according to how bad the case is.

When the number of healthy, or comparatively healthy, young bees has sufficiently increased so that the management of the colony (if I may use that term) falls into their hands, they soon realize that something is wrong with the old, shiny bees, and proceed at once to throw them out of the hive. This is sometimes done gradually, but usually all at once. That is, when the old bees have not already died out from old age and sickness.

During the summer the bees do not live long enough to reach the shiny stage, unless it be in exceptionally bad cases, but plenty of them can be seen shaking and quivering.

CAUSE OF BEE-PARALYSIS.

Microscopic and bacteriological investigations have shown that bee-paralysis is due to the presence of a bacillus. The expression "a bacillus" does not mean that there is only a single one in each diseased bee, but it means that all are of the same kind. That kind is called *Bacillus Gaytoni.*

What is bacillus, or what are the *bacilli* of different kinds? Bacilli are classified as "plants," though they are not at all like flowers, trees, grass, etc. They are like very small rods. The kind of bacilli, or to use accepted terms, the bacillus that produces foul brood is only one-thousandth of an inch long, and one 40-thousandth of an inch thick; while that producing bee-paralysis is only one 15-thousandth long and one 35-hundredth thick.

When bacilli have attained their full size, they break into two or more pieces. Each piece grows until full size, and breaks also, and so on. This process lasts as long as there is plenty of nourishment and sufficient heat and moisture. When these conditions fail, the rods become spores of a more rounded form. These spores will resist the disinfectants, poisons and other noxious substances; also the extremes of cold and heat, far better than the rods. They will keep alive without developing for quite a length of time, and then turn into rods when the proper conditions are met with. The body of a larva affected may contain, not thousands, but millions of these rods. When the larva dies they still consume the soft parts and multiply for awhile, and then turn into spores, escape, and float in the atmosphere. Some reach the honey and remain there, and likely some are taken in by the bees or brood in the act of respiration, or otherwise.

But here comes the most remarkable part of the program. These spores, which resist heat, cold and chemical agents so well, require a certain amount of moisture to keep up their vitality. Dry air does not contain enough. So those of the spores that have not found a safe lodgement in the honey or the bodies of some larvæ or bees, dry out and lose their vitality in the course of a day or two. And this is a general rule (there are some exceptions) with all kinds of bacilli. Every one knows how beneficial sunshine and dry climates are to the sick people.

CULTIVATION.

Here the question might be raised, How do we know that these tiny creatures do the mischief—such little things that it takes the most powerful microscope to see them.

Well, we know it by *cultivating* them. Small glass vials about a half-inch in diameter and a few inches long are prepared. In these are placed some beef-broth, gelatine, milk, or anything on which we think the bacilli will thrive. The vials are stopped with some cotton, then carefully heated and otherwise treated so as to make sure that no germ from the air, or anything else, can get in and interfere with the *culture.*

Suppose we want to study the bacilli producing foul brood or bee-paralysis. We cut a small piece of the extremity of the tongue of a bee from the diseased colony. That piece contains a minute drop of blood, and that drop, minute as it is, a number of bacilli. We put it in the vial. Soon after the bacilli begin to multiply there just as they would in the body of a bee. We can study them easily, and ascertain all we want about them. Then, to be sure that we are right, we take some of that culture, feed it to some bees or brood that we know to be healthy. Then if the disease develops we know that we have the bacilli wanted, and that said bacilli are the cause of the disease.

DEVELOPMENT.

The chief difference between foul brood and bee-paralysis is that the first is a rapidly developing disease, and the other a slowly developing one.

The first result is that in the cases of foul brood, the brood infected dies before ready to seal, or soon after. This does not occur with bee-paralysis. The malady develops so slowly that the affected brood would not die until some time at least after having emerged. It is possible—even probable—that the majority of sick bees contract the malady only after reaching the adult state.

It is often said that foul brood is a disease of the brood, but not of the adult bees. That is an error. All the microscopical investigations made have shown bacilli in the adult bees—workers, drones and queens, as well as in the brood. Even the ovaries of the queen have been found infected. Such being the case, it may seem strange that the malady is not propagated by the adult bees unless they carry some infected honey. It is a known fact that sick bees go out of the hive and die away from it. Cheshire thinks that since foul brood develops so rapidly, the bees which contract it get very rapidly too sick to remain in the hive, and go out to die before they can infect the others.

INFECTION FROM THE QUEEN.

It is an indisputable fact that bee-paralysis may be transmitted by the queen. Probably by laying infected eggs. The malady is very contagious, anyway, and spreads very rapidly from one hive to the others.

Some writers have said that there are two stages, so to speak, of the disease. In the first the disease is about as I described at the beginning of this article. But sometimes a turn for much the worse comes all at once; the bees become shiny rapidly, the work is almost neglected, young bees just emerged, or only two or three days old, are shaking and quivering; and ere long the colony perishes.

When it comes to that point it is probable that the eggs laid by the queen are infected. I don't know whether any microscopical examination to that effect has been made or not. In fact, bee-paralysis has been studied very little yet, and much remains to investigate.

I had one case like that once, upon which I tried an experiment. While the colony had reached the worst stage of the disease, it was pretty strong yet. The honey-flow was good, and the temperature sufficiently high. I removed the queen and gave the bees a young laying queen. In due time her progeny hatched out, strong and healthy, or apparently so, and soon after they cleaned out the old bees. Of course, the disease reappeared, but nothing to be compared to what it was while the old queen was there. Evidently the old queen was infected and was laying infected eggs. I did not make a microscopical investigation. I have neither the time, the means, nor the ability necessary for that kind of work.

REMEDIES.

A great many were tried during the years referred to at the beginning of this article. The most popular were requeening, salted water, and sulphur.

Re-queening is not a cure, but always an improvement, especially if the old queen is more or less diseased already. In any case, a young prolific queen would cause an increase of young, comparatively healthy bees, and that of itself would be a considerable improvement.

The other remedies are of but little account at the best. Every few days somebody reports having applied sulphur, salt, or something else, and met complete success—the shiny bees had completely disappeared. Unfortunately the disease invariably reappeared the following spring. As the old, shiny bees would have disappeared anyway—either died out or been driven out—the conclusion forced itself upon the mind that the remedies used had but little effect at the best.

CAMPHOR.

My bees had the disease from the beginning. It kept on increasing during several years until I finally either had to do something or quit keeping bees. The bacilli are in every part of the bodies of the bees or brood, chiefly in the blood. The spores may be anywhere in the hives, and very likely like those of the foul brood in the honey and pollen. Feeding with carbolic or salicylic acid would fail to reach the spores, and perhaps act only in the digestive organs of the bees. Dusting with sulphur or other similar substances would certainly kill whatever spores or bacilli it would reach, but would fail to reach the honey, especially if sealed, or even the blood or other interior organs of the bees. Spraying would not be much better. Fumigating would be the thing, the vapors would penetrate everywhere in the hive, even through the cappings, and through the bodies of the bees also.

This may seem rather "off," but it is not. The bees and other insects breathe through a far more complete apparatus than the higher animals. What we might call their lungs ramify and penetrate everywhere throughout the whole body. Evidently some substance that would evaporate freely would be preferable, as then the fumigating would be done automatically. At last I decided to try my camphor and crude carbolic acid. By that time the winter was at hand. I put a piece of camphor in some hives and a very small dish of carbolic acid in the others.

When the spring came a considerable improvement was noticed. The colonies were much stronger, the number of shiny bees very much smaller than ever before. There was but little difference between the two remedies, and what may have been was in favor of the camphor, so I dropped the carbolic acid. Neither one can be used during the summer. The carbolic acid, if given in anything like an effective quantity, is liable to cause the bees to abscond. As to the camphor, they enclose it in an envelop of wax and propolis in less than 24 hours after it is given.

For several years I repeated the treatment every winter with the result that the disease became less and less, and and finally disappeared, as far as I could see. Then I discon-

tinued the treatment. But last summer (1904) I saw again a few bees here and there twitching and scratching, showing that the cure had not been complete. The malady might have been re-introduced from abroad. If it was, it came through some of the queens I bought, as there are no bees near enough mine to give them the disease. But I rather think that the cure was not complete.

Bee-paralysis is a very erratic disease. Sometimes it appears, or disappears, or nearly so, without any cause or reason that can be assigned. And it is possible that the disease decreased of itself, and that the supposed effect of the camphor applied was a mere coincidence.

PICKLED BROOD.

This seems to be essentially a disease of the brood, or rather of the pollen first, and then the brood fed on that pollen. The first intimation of it is some larvæ having a dull appearance, and stretched or turned in a wrong position. More and more are seen, and as the disease advances they become a kind of yellowish gray, eventually turning to brown. Most of them finally die before being sealed, others only after.

When a large portion of the brood has become diseased, the bees discontinue brood-rearing entirely, and cease to bring in pollen. Eventually the sound brood hatches out, and the dead larvæ dry enough so that the bees can take them out, which they do. They also clean out the infected pollen, and if at that time the hive is examined, the combs will be found as bright and clean as they can be. The queen has died, and no attempt at rearing another has been made. This has invariably occurred in every case that I have seen, when left to themselves. It seems, therefore, that the queen also becomes diseased, which is likely to be, since she receives the same nourishment as the larvæ. The adult bees and drones seem to remain healthy throughout. However, if a microscopical investigation is ever made, it may show a different state of affairs.

The malady is not contagious, or very little if at all, and does not spread from one hive to the other. Some one in these columns suggested that since the malady is not contagious, it would be best to break up the colony and distribute the combs among the other colonies. I certainly would not risk it. Because the malady is not contagious from *hive to hive*, it does not follow that it is not so from *comb to comb* in the same hive. In fact, it spreads over all the combs of an infected hive, and there is no reason why it should not do so where a diseased comb is introduced in a healthy colony. It would be easy to try, but I don't care to do it.

If the queen gets sick, the cessation of brood-rearing may be due to her condition. However, it is not so in all cases. I once removed the queen and put in her place a young laying queen. She laid a few hundred eggs and quit. The bees made no attempt at brood-rearing, and did not even resume pollen-gathering. The eggs remained unhatched some 8 or 10 days, and finally disappeared.

CAUSES OF PICKLED BROOD.

Some have said lack of honey, some lack of pollen. It is neither one. I never had a case yet where there was not some honey, and sometimes there was a considerable quantity of it. It certainly is not the lack of pollen. In my locality, pollen could be had by the ton the whole summer, from pumpkins, melons, corn, ragweeds, and lots of other sources in succession. When the disease reaches a certain point, the bees cease to bring in the pollen; that's all there is to it.

The investigations of Dr. Howard show that the disease is due, not to a bacillus, but to a fungus—*Aspergillus Pollini*. It develops in the pollen, and thence into the digestive apparatus of the brood. Dr. Howard thinks that the malady could be carried from one hive to the other by robber-bees. So far as I remember, the most I had of it in any one year was 4 colonies in one apiary and 3 in the other. Last year I had 1 case, and the year before none. That does not look much like contagion.

CURE FOR PICKLED BROOD.

The advice is usually given to melt the combs, pollen, brood and all, and start the colony on foundation again. That always seemed to me to be too much trouble, and I never have done it. I let the thing go through its course, and when the bees have cleaned everything I give them a queen and some brood to start anew. I have tried carbolic acid, given as described above, that is, letting its vapors do the work. It is effectual. The only trouble is that if enough is given to effect a cure within a reasonable time, the bees may abscond.

The case I had last summer was discovered early; there was but little diseased brood yet, and quite an amount of sound brood nearly all sealed. I didn't want to lose all that brood, so I caged the queen, intending to come back 21 days later, after all the sound brood would be out, and then disinfect the combs by putting them in a box and burning sulphur. Somehow or other I was delayed, and when I visited the hive the bees had already cleaned everything thoroughly. I gave them another queen and some brood. The malady has not reappeared.

STARVED BROOD.

Several times dead brood has been sent to Prof. Cook for identification. In some of his contributions he states that the brood sent him looked merely like starved brood. It may seem strange that such a thing should occur more often in California than elsewhere, but in reading the "Rambles" of J. H. Martin, in Gleanings, we find the statement that in many parts of California the summer temperature during the day reaches 100, and even 110 degrees, sometimes more. And in looking at the halftone engravings, we see the hives, single-walled at that, exposed to the hot sun without any protection whatsoever. More than that, the hives are right on the bare ground, in a climate where it does not rain the whole summer. Who does not know that in dry and hot weather the temperature of the ground exceeds considerably that of the atmosphere? And with the hot sun above, and the radiation of the hot ground below, the temperature to which these hives are exposed must be excessive. When the temperature is too high the bees are forced to abandon the hive. The brood left behind starves, or is overheated—likely both. Then the unlucky (?) Californian sends a piece of it to Prof. Cook, asking if it is pickled brood or bee-paralysis!

POISONED BEES.

Occasionally bees are poisoned by gathering nectar or pollen from fruit-trees that some ignorant person sprayed during blossoming time. Some cases of bees dying from the emanations of copper-melting furnaces or similar kinds of establishments have been reported. And, very often in such cases, the apiarist has thought that his bees had some disease.

Another cause of trouble is the gathering of nectar or pollen from plants having narcotic properties. Several kinds are known, but here (in the United States) the only important one is the yellow jasmine. The bees affected look, or rather act, very much like those having bee-paralysis, and frequently the two cases have been taken for each other.

DISEASES OF BEES.

Bee-paralysis and pickled brood have not been studied seriously yet. We barely know enough to recognize them, and none too well at that. Foul brood has been more thoroughly investigated, and yet it is only a short time ago that we finally learned to distinguish it from black brood and pickled brood. And the distinction is not yet as fully established as it might be.

A cause of mistakes may be the presence of more than one disease at the same time in the affected colony.

Recently, Prof. Lambotte, of Liege (Belgium), asserted that the so called *Bacillus alvei* was merely the well-known *Bacillus mesentericus vulgatus*. He was certainly mistaken, but it has since been suggested that both might have been present in the diseased colonies, and thus misled him.

More recently (last summer, 1904), Dr. Burri, of Zurich, (Switzerland), began a new study of the foul brood. He found in some cases the regular foul brood bacillus (*Bacillus alvei*), with all the characteristics described by Cheshire and Cheyne, and later by Prof. Harrison, of Ontario (Canada). In some other cases he found another kind of bacillus, which is extremely difficult to "cultivate," and therefore to study. Occasionally the bacillus mesentericus is found, but in small quantity, and seems to be accidental.

A third kind of bacillus has been seen, but seems to be very rare.

There is, furthermore, some acid brood—something like what we call here pickled brood—but Dr. Burri found it always in samples having also foul brood. It is caused by a kind of bacteria which do not form spores, and therefore is not a bacillus.

Other institutions in Germany have also taken up the question, and we may before long be thoroughly informed on all these questions.

Cheshire, in his examinations of diseased bees (see his book, Vol. II), found several organisms besides the foul brood and bee-paralysis bacilli, but he did not have the time to study them.

In Germany, in 1897, a peculiar disease was observed. Young bees incapable of flying came out and died in heaps. Much of the brood was dried up, retaining its form. It could not be cut with a knife, but broke to pieces under pressure.

The cause was ascertained to be a fungus similar to the one (*Oidium albicaus*) which attacks the mouth of infants.

Prof. Leuckart has also described a fungus (*Oidium Leuckarti*) which causes injurious, but not disastrous, effects in the intestines of bees.

Much is to be studied yet. Knox Co., Tenn.

Convention Proceedings

Report of the Chicago-Northwestern Bee-Keepers' Convention, held at Chicago, Ill., Nov. 30 and Dec. 1, 1904

(Continued from page 585.)

A NATIONAL HONEY EXCHANGE.

"Is there any movement on foot regarding a honey exchange or any method whereby the National Association can market its members' honey?"

Pres. York—There was a movement started in St. Louis to organize a National Honey Producers' Association, and there were some subscriptions of stock taken.

Dr. Miller—But not for the National?

The President—It was started in the National convention.

Dr. Miller—I think you are right that there was a movement started there to get up a honey exchange, but not that the National was to do anything about it.

Mr. Whitney—From the report which was sent me I think the Doctor is right. There was an attempt to organize something inside of the National, or by individuals who belonged to the National becoming stockholders of the new corporation if it was formed, for that purpose.

CASH FOR PROOF OF ADULTERATED COMB HONEY.

"I suggest that this Association offer $500 for two pounds of comb honey that is proved to be adulterated."

Pres. York—I don't know who suggested that, or where the $500 is to come from, but the intention no doubt is all right. It is proposed that this Association offer $500 for two pounds of comb honey. I suppose it is meant two pounds that the bees didn't make. What are you going to do with it?

Mr. France—I think nearly all here are members of the National and this was threshed over very thoroughly at St. Louis. I don't know why it should be brought up again. We know that manufactured or so called artificial comb honey has not been made or placed upon the market, and there is no necessity of agitating that matter here at length.

Mr. Wilcox—I read the proceedings of that convention at St. Louis, and I think all who have read it understand if anything is to be done it will need to come in a little different form from this. But I hardly see the necessity or advantage of trying to do anything. But if we do, we should need to put it in proper form or else we would create a wrong impression and say something we didn't intend.

Mr. Whitney—It seems to me it would be better to let the individual who manufactures that pound of honey take the A. I. Root Company's $1,000 for it. I understand they have an offer, and have had it for years, to pay $1,000 to anybody who produces the proof. If I were going to manufacture that pound of honey I would rather go to them.

"What can this Association do to counteract the evil effect of the publication of the manufactured-comb-honey story in the press of the country? Can we do anything? If so, what?"

Mr. Dadant—Publish statements to the contrary.

Dr. Miller—I doubt very much the ability of this Association as an association to do anything, but I don't at all doubt the ability of the individual members to do something by working through the local press. They can do a great deal in that direction. I doubt the wisdom of any action on the part of this Association.

Mr. Whitney—On that question I have something interesting—to me, at least. I heard of a merchant in this city who sold a lady a case of honey, and the next day she sent it back and came in in a day or two after to tell him she had sent that honey back. She said, "That is manufactured honey. It came from South Water street; it was made by machinery, and I never bought any such honey as that." He told her that she was mistaken, and convinced her it was not manufactured; that it was put in by the bees. She finally consented to let him send the honey back to her house. But there are plenty of people who really think that there is plenty of manufactured comb honey on the market. I meet them at home; intelligent people on everything else but bees and honey; they don't know anything about it.

Mr. Moore—Some of your may think we are threshing this thing out at unnecessary length. My specialty has always been honey for private families. Some of us visit the people who eat our honey on their tables, and you will all admit that they are not quite the biggest chumps on earth that are running the city of Chicago, large and small, rich and poor; and I want to tell you, from all those people, of all conditions in life, comes this question, "Is comb honey really manufactured?" And they ask me as an expert to answer it. "Is most of the honey on the market manufactured?" This comes to me in one hundred and one different ways. I have one answer. Of course I say that all comb honey is pure honey. Some of you perhaps do not come in touch with these folks in the way I do, and you think it is a question that we are putting too much stress upon, but every one of you ought to carry the idea through your lives, that whenever you can you want to strike a blow in favor of the right. Dr. Emma Walker, in the Ladies' Home Journal, put forth a statement in which she said that one of the largest uses of paraffin was to make manufactured comb honey. Then and thereupon I wrote to her contradicting it, and I wrote to the editor saying that it was absolutely false, and it was wrong for any one in her position to put forth a statement that would injure a large number of people. Mr. York also wrote to the editor a personal letter. We both got answers. I suppose that that department was flooded with letters from all over the country. We looked with a great deal of interest to see what would be done. Perhaps two months afterwards came the answer, an article in which she summed the thing up and said this and that authority said it was so; and that the Encyclopædia Britannica said that there was manufactured comb honey, and gave four or five different authorities stating that comb honey was manufactured and paraffin was largely used. But she summed it up at the bottom by saying that "after talking with practical bee-keepers and considering the matter in all its points we have decided that there is no such thing, and never has been, as manufactured comb honey." It was the result of our influence. Now, all of you go through life and remember to use your influence wherever you see the opportunity. Wherever you see in the newspaper an article with this falsehood, go to the newspaper, or write, and have it contradicted, if possible, and do not let a single instance go by of contradicting this infamous lie that has been passed around from one end of the world to another. That is the way in which this Association, and we as individuals, can do good; whenever we see a head, hit it!

(Continued next week.)

Our Bee-Keeping Sisters

Conducted by EMMA M. WILSON, Marengo, Ill.

Mrs. and Mr. Honaker and Their Apiary

I am sending you to-day a picture of a portion of our bee-yard, showing Mr. Honaker and myself. The bee-keeper has a scowl on her face, which her husband declares is "quite natural."

The yard is located in the garden directly back from the dwelling-house, so that all hives are in view from the dining-room windows. There are in all about 60 colonies, 3 or 4 more than were taken out of the cellar last spring. This is the number usually kept. All colonies have stored considerable surplus this season, duplicate hives being generally used for supers. All supers have honey in them, all but two or three being practically full. Besides what is now on the hives, we have perhaps taken off 600 or 700 pounds. The picture shows the apiary as it is to-day, having been taken less than a week ago.

The shrubbery back of the hives where Mr. Honaker stands is red raspberry bushes, which, at the present time, are well loaded with ripe fruit. The young trees shown further back are 6-year old walnut seedlings, some of which are perhaps 15 feet in hight. Nearly all swarms that have issued the last two years have settled on these trees, often breaking down limbs with their weight.

Back of the garden is a cornfield, just now beginning to tassel. In the distance, on the line between our farm and a neighbor's, is a large cherry-tree, which may be seen for many miles in all directions.

We use a large 12 frame hive, something like the Dadant hive. We produce mostly extracted honey, using always queen-excluders between upper and lower stories. We have no basswood within reach, our main crop coming from white clover, although alsike is grown quite extensively on our own and neighbors' farms. We have a small field of alfalfa, which, if it does well, will be enlarged another season. I am fortunate in securing a bountiful honey crop this season, considering that we have only the one dependence from which to obtain it. I have never had any foul brood in my apiary, although it is possibly at no great distance from us.

MRS. MILLIE HONAKER.

Vernon Co., Wis., Aug. 4.

Laying Workers—Bees Moving Eggs, Etc.

MY DEAR MISS WILSON:—You have helped me so often through the American Bee Journal that I am afraid my gratitude is of the sort described as "a lively sense of favors to come." So I am sending you some of my summer bee-puzzles.

You helped me when I first began keeping bees, 3 years ago; last year I wrote to you about making artificial increase with Italian queens; this time my questions are chiefly as to the "ways that are dark" of the bees themselves.

I was in California all last winter, and did not return to unpack my bees till the middle of May. I think this was rather an advantage, as the spring was unusually cold. Two colonies out of 33 were dead, but the majority were in splendid condition, having nearly double the amount of bees and brood they had in May of last year, and they had no feeding. Only one colony had the listless, dispirited look about it that made me say before I opened it, "I expect this hive has no queen." But there was a queen, and brood, too, though only on 2 combs; but the capped brood was all drone-brood in worker-cells, and there were 3 vacant queen-cells at the bottom, and I thought it must be a case of a drone-laying queen. An unusually early swarm came out that day, and I put what bees there were (not very many) in with it, and killed the queen.

Lynch law—and the innocent murdered as usual! I put the brood in with the swarm, and a week later the rest of it was all beautifully capped worker-brood.

I have now another colony that I think has only laying workers. Over a month after swarming I found brood on 7 combs, but all the capped brood was drone-brood in worker-cells. This time I waited a week and looked again. Still there was no worker-brood, and there were a lot of queen-cells with little grubs in them. I cut these all out, and stapled 2 capped Italian queen-cells on the comb. Two days later they had not torn them down, and I hope the colony will right itself. If I do not find the worker-brood after 3 weeks, what should I do? Is it possible to find and destroy laying workers, and then give a laying queen? I was afraid they might kill one, if given with the laying workers in the hive.

I have been rather unfortunate with my queens. None of them are clipped, but I have found as many as 6 crawling on the ground. Three came out with first swarms, so I hived them as with clipped queens. Two are doing well, but the third has been another puzzle. I gave them one comb of honey at one side of the hive, and one comb of brood at the other, and the rest foundation only. A week later the bees had queen-cells on the brood-comb, and also on the corner of the new foundation next to it, and I could not find the queen. I gave them Italian brood, after cutting out the other queen-cells, and after 21 days I found a fine young queen and eggs on one comb.

I should have thought the old queen got hurt in swarming and died just after, if it had not been for the queen-cells—and queen-cells *only*—on the new foundation. The cells had good brood in them, which could only have been put there after swarming. Do you think they killed the queen as soon as they had gotten her to lay in their new queen-cells? Now ants carry their eggs about. Have worker-bees ever been known to carry eggs from worker-cells to more conveniently-placed queen-cells when deprived of a queen?

Now for my last puzzle, though I have a feeling that I am asking very foolish questions. But it is one of the best ways to learn.

A colony swarmed June 17. I did not know that it had swarmed before, but the brood left was all capped. I saw the queen that issued with the swarm go into the new hive, but I could find neither queen nor queen-cells in the old one. I gave them a comb of brood, and a day or two afterward I found 15 queen-cells on it. Feeling sure now that they had no queen, I waited till the brood was 7 days old; then I cut out all the queen-cells and gave them a comb of my best Italian brood, on which they immediately reared a number of fresh queen-cells. *Ten days* after I gave this brood, I looked again and found all the queen-cells capped, and some "nibbled" by the bees ready for hatching; and then, to my surprise, I saw on the comb among the capped brood several cells of baby brood. To make "sure" into "certain," I went home and got the magnifying glass. There they were, healthy looking larvæ, some looking only a day or two days out of the egg, and only 8 in all, uncapped on the comb. There was not an egg anywhere or a queen, that I could see.

Not wishing to lose the Italian queen-cells, I divided the bees and put the comb with the cells on in another hive, giving the old hive a fresh comb of brood. On this they have reared a lot more queen-cells, but there has been no fresh brood in the hive.

Now with all these queen-cells I can hardly think there ever was a laying queen in the hive. But where did that tiny brood come from?

Bee-books say the eggs hatch at 3 days, and are capped at the 9th. This is of course the rule, but do they ever hatch when a week old? The eggs of other insects often remain a long time before hatching. The hive with the other half of the bees and the queen-cells reared a fine-looking queen, but misfortune pursued them, too, and I suppose she was lost on her flight. There is no queen there now, and they are hard at work at queen-cells again.

Thus far there has been very little surplus honey; most of my colonies have not begun to put anything in the supers yet. Hitherto I have used only a top starter in my sections, but as you and Dr. Miller so strongly recommend a bottom one also, I am trying them in a number of marked supers to see the result in this locality. COLORADO.

July 22, 1905.

No, it is not possible to find and destroy laying workers. A laying worker looks like any other worker, and the only way you could distinguish one would be to find it in the act of laying while you held the comb in your hand. You might spend a long time before succeeding in this, and then when you had succeeded you would have put out of the way only one of a goodly number of workers engaged in the miserable business of laying eggs that by no possibility can produce worker-bees.

You did a good thing to give them a sealed queen-cell, for they will accept a cell when they would kill a queen. In the meantime, however, the colony will be rapidly diminishing in numbers, and you can give it aid without waiting until the prospective queen begins to lay. From any colony with a laying queen, take one or two frames of brood, selecting the youngest you can find, and exchange for one or two frames in the invalid colony. If you are willing to take the extra trouble, it will be better to take only one frame from a colony, and by drawing one each from four or more colonies you can give your patient quite a set-up. Neither will this cost very much to the colonies from which the brood is taken, if you select combs mostly filled with eggs and young brood.

There are those who are very positive that bees carry eggs from one place to another; others are skeptical about it. But it is not necessary to suppose there was any such transportation in the case you speak of, where eggs were found in queen-cells on foundation. Did you ever stop to think that in the usual course of events *every* queen is superseded by the bees? That superseding takes place generally in the latter part of summer, and it would be nothing strange if a good many queens made preparation for a successor immediately after being hived with a swarm. A queen may do excellent work at laying up to a certain time, perhaps up to the time of swarming, and then fail rapidly. If she disappeared from your colony entirely, before her successor was ready to set up in in business, it is not likely the bees killed her, but that she died from old age. And old age may come to a queen before she has lived a year, or not till she has lived 5 years.

Before any attempt at a guess in the case of your last puzzle, allow the remark that you need not worry as to any question about bee-keeping being considered foolish, unless it be one plainly answered in the books of instruction which bee-papers are supposed to supplement. Especially when one shows such intelligent powers of observation, any questions arising are likely to bring out points of interest that may be instructive to others as well as to yourself. A good questioner is, in an indirect way, a good instructor.

The presence of those few cells of young brood might be accounted for in more than one way. A queen might have been in the hive, and after having laid only a few eggs, she may have been accidentally killed by you when the hive was opened—queens are sometimes killed in that way. Laying workers might have begun work, and then desisted. As good a guess as any is the one you yourself have made. Eggs do remain in a hive sometimes without hatching for a number of days. Dzierzon reports a case of the kind.

After trying bottom starters, kindly report whether a success or otherwise.

The Honey-Money Stories"

We have just issued a 64-page-and-cover booklet, 5¾x8½ inches in size, printed on enameled paper, entitled, "The Honey-Money Stories." The cover has a picture of a section of comb honey, 3½ inches square, the comb being in gold-bronze, which gives it a very attractive appearance. Then on the gold-bronze comb are printed these words: "From Honey to Health, and from Health to Honey."

It is edited by Earl M. Pratt, and contains a variety of short, bright stories interspersed with facts and interesting items about honey and its use. The manufactured comb honey misrepresentation is contradicted in two items, each occupying a full page, but in different parts of the booklet. It has in all 31 halftone illustrations, nearly all of them being of apiaries or apiarian scenes. It also contains 3 bee-songs, namely, "The Hum of the Bees in the Apple-Tree Bloom," "Buckwheat Cakes and Honey," and an entirely new one, called, "The Bee-Keepers' Lullaby." This last song has not been published before. The songs alone ought to be worth more than the price of the whole thing.

It is a booklet that should be placed in the hands of everybody not familiar with the food value of honey, for its main object is to interest people in honey as a daily table article. It is thought that it will be just the thing to sell on railroad passenger trains, on news stands, etc. The stories and items are all so short and helpful, and the pictures so beautiful, that it will likely be kept by any one who is so fortunate as to get a copy of it. Its postpaid price is only 25 cents, but the health-value of its contents would run up into dollars. We mail 5 copies for $1.00, or club it with the American Bee Journal—both for $1.10. It would be very nice for a gift to a friend.

Doctor Miller's Question-Box

Send Questions either to the office of the American Bee Journal, or to DR. C. C. MILLER, Marengo, Ill.

☞ Dr. Miller does *not* answer Questions by mail.

Uniting Colonies—Space Under the Frames

1. What is the best way to unite 2 colonies of bees at this time of the season?

2. Is it detrimental to best results to have a 2-inch space in the brood-chamber under the frames? NEW YORK.

ANSWERS.—1. I don't know. What might be best in one case might not be best in another. Here's one way that is good: Kill the queen in one of the hives, and 2 or 3 days later set this hive over the other with 2 or 3 thicknesses of newspaper between, making a hole in the newspaper large enough for one or two bees to pass at a time. A few days or a week later you will find that the bees have eaten away much of the paper, and you can then put into the lower story the frames of brood that were in the upper story.

2. Only good can come of it any time except during the gathering season, and then the space must be reduced to ¾ inch or so. If the full 2 inches are left when bees are gathering, they will build comb below the bottom-bars.

Plan of Superseding Queens

What is the matter with the plan of killing undesirable queens, and changing their brood for the brood of the best queens? It looks as if this might be practiced to quite an extent in many apiaries. I am doing some of it now. IOWA.

ANSWER.—The plan will work all right, and you are wiser than the average to take that much trouble to improve your stock. The only "matter" I can see with the plan is the trouble it takes, but the gain ought to pay well for the trouble taken. Could not the work be lightened by having sealed cells ready in advance, giving a sealed cell in an introducing cage at the time of killing the queen? Better still, a virgin queen? I must confess that I have taken still greater trouble in superseding several queens, caging in the hive a laying young queen taken from a nucleus with the candy of the cage covered so the bees could not get at it, and two days later killing the old queen and leaving the candy so the bees could eat it and release the queen in the cage. This is the plan of introducing advocated by Emerson T. Abbott.

A private word shows a tendency to regret having written about bees. Please don't cherish thoughts of that kind. I don't believe others are so different from myself, and I have always enjoyed seeing what you have written.

Taking Off Honey—Bee-Keeping as a Business

1. How early is it safe to take off comb honey that contains no bee-bread, and pack it away in shipping-cases?

2. I have 91 colonies with from 2000 to 3000 pounds of comb honey. This has been a good year, and if I had been prepared for the work I would have had a much larger yield. But I teach school 9 months in the year, 30 miles from my bees, so you will understand that my vacation is a busy one. I am thinking very strongly of going into the bee-business and dropping school work.

The American Bee Journal is a fine paper and full of valuable information. IOWA.

ANSWERS.—1. To get the best price for comb honey it is well to take it off as soon as it is sealed, because it is whiter then, and the market demands the whitest combs. If left on longer it will be better to the taste in all probability, but the comb will not be so white.

2. Don't think of depending upon bees alone till you have enough money ahead to tide you over one or more years of failure.

A Beginner's Experiences

1. I am a beginner, having started last year with 4 colonies, and last spring I bought 2 more colonies, with the expectation of getting 6 new swarms. Three swarms issued from them, but 2 of them died shortly after they were hived. The weather was cloudy and rainy. Do you think they should have been fed? I did give them syrup a couple of times.

2. I found some eggs in one of the swarms that died, and am sending them to you, and would like to have you tell me what kind of eggs they are. Are they moth eggs?

3. We had very nice weather last spring, and honey began to come in early. One colony had very nearly one super full of honey, but it was not quite all capped over, so to make room for the workers I put an empty super on top of this one. About a week later I looked at it again, but it was not yet completely capped, so I left it for another week, and when I again opened the hive I found that every bit of the honey had been taken from the combs. What became of that honey? The last week has been a little cloudy, but there has been occasionally clear weather, so that the bees could fly out, and they seemed to be doing good work.

I suppose I should have put the empty super under the full super, but I did that last year and the bees carried all the honey down into the empty super, and of course lost a good deal of time. This year I put the empty super on top, and lost all the honey.

4. I had one colony that swarmed 3 times. The bees would settle, and before I could hive them they would go back into the old hive. They did this 3 times. What was the matter with them? That was a month ago, and they have not swarmed since.

5. I never clipped a queen yet. In fact, I have never been able to find the queen in any of my colonies, though I have looked many times. The bees all look alike to me. OREGON.

ANSWERS.—1. Yes, if weather is cloudy and rainy immediately after a swarm is hived, it should be fed. When they have used up the honey they carried with them in their sacs, the bees have no stores in the hive to fall back upon, and if not fed must starve.

2. As nearly as I can make out, after the specimen has been crushed in the mail, what you send is the egg of the cockroach, dark brown or black, and larger many times than the egg of the moth, which is white, and round as a marble.

3. Although it seems pretty rapid work for the bees to carry all the honey out of the super in 2 weeks' time, there seems no other way to account for it. The honey-flow must have stopped, and the bees carried the honey down into the brood-chamber. If the honey-flow stopped long enough, the bees would carry the honey down, no matter whether the empty super was under or over the full one.

4. Some would say they went with the queen on her wedding-trip, but Mr Doolittle says bees don't do that. It is possible that the queen was not able to fly with the swarm, and the swarm would then go back into the hive. The queen crawled back into the hive the first and second time, but the third time she was lost, and then the swarm did not go again. The usual thing would be for the bees to swarm again when the first virgin queen issued from her cell; but the stoppage of the honey-flow at that time prevented the swarming.

5. If you persevere you will undoubtedly succeed in finding a queen, and having found one it will be easier to find others. Look for a bee larger than the workers, with wings that look too short for her size.

Why No Honey Coming In?

In this locality we have had no honey so far, and almost no swarming. There has been plenty of white clover and some other bloom, but absolutely no honey, while last year all supers were full by July 15, and there was free swarming. There is no disease. The bees simply stay in the supers and don't work, and but few bees are to be seen on the flowers. What is the trouble? KANSAS.

ANSWER.—I don't know. I only know that sometimes there is abundance of white clover in bloom and bees can get nothing from it, and at other times when no bloom is to be seen the bees fairly roll in the nectar. Some have said it was owing to electrical conditions.

Bees Tearing Down Queen-Cells

I had one colony queenless and gave them a frame of brood. The third day after, they had 4 queen-cells started. The next time I looked they were capped. When they had been capped about a week I looked into the hive again, intending to cut them out, but found that the bees had torn them down before it was time for them to hatch out. I also found that 2 artificial swarms with queen-cells

had done the same thing. I gave one of them another frame of brood. What is the matter with these colonies? WISCONSIN.

ANSWER.—The probability is that a young queen had emerged from her cell. Her first care would be to see that all rivals were out of the way. Possibly you may say that you are sure that could not have been the case, for you looked the combs over very, very carefully, and every queen-cell was torn open at the side, the end of the cell being entire, showing that no queen could have emerged from it. In that case a virgin from elsewhere may have entered the hive. Oftener than you might suppose a virgin or a laying queen enters some hive other than her own. Sometimes, however, bees take a notion to destroy cells with no apparent reason for it.

Italian Bees Practically Moth-Proof

What bees, if any, will keep moths out of hives? What bees are *best* to keep moths out?
ARKANSAS.

ANSWER.—No bees will succeed perfectly in keeping the moth entirely out of the hives. Any bees will succeed to a large measure, if colonies are kept strong. Italians are very much better than blacks. Even a nucleus of Italians will defend themselves quite well against the moth. Not a thought need be given to any danger from moths in strong colonies of Italians with laying queens.

A Queen Experience

A colony that swarmed July 19 was put on a new stand and given a virgin queen, which the bees apparently liberated July 20. She immediately (I suppose) tore out all the queen-cells. July 21 the hive was opened, the cage removed, and the frames put in order. Twenty minutes afterward the queen was dead outside the hive. Was the queen accepted for a time, that is, long enough to destroy the queen-cells, then killed by the bees when the hive was opened? All of these bees were afterwards run through perforated zinc, and given brood in all stages, but no queen-cells were started, nor can I find any signs of laying workers. What is the matter? Would you try to reduce such a colony?
INDIANA.

ANSWER.—Hard to tell just what was the matter. The supposition that the virgin you gave was accepted, allowed to destroy the cells, and then killed by the bees within 20 minutes after you opened the hive is hardly tenable. Left to themselves, it is very unlikely that the bees would turn upon the queen after she had destroyed the queen-cells. If your opening the hive made the bees attack the queen, they would be a good deal longer than 20 minutes in killing her, for she would be killed by balling, which probably means starving to death. It is possible that you might accidentally have killed her yourself. That the bees should have been sifted through an excluder so as to exclude any queen, and then should refuse to start queen-cells, is at least very unusual. It is possible that there is a queen in the hive, however. Virgin queens are up to tricks, and one of their tricks is to enter some hive other than their own. Just as soon as you got through sifting, and had turned your back, a virgin may have entered from elsewhere.

If you find no eggs present by the time the queen, (if they have a queen), is 2 weeks old, you have your choice either to break up the colony or to give it a queen. In the meantime, if you desire to keep the colony going, give it frames of unsealed brood and eggs from elsewhere, to keep up its spirits and its strength. It would do no harm also to give a queen-cell, which will be destroyed if anything in the shape of a queen is present.

Reports and Experiences

Poor Honey Prospects

The honey prospect for Grant and Crawford counties is very poor this year, owing wholly to the bad weather. It has been mostly rainy, cloudy, and cold. It has rained every day for 9 days up to to-day, and it threatens now. Not all the time, but from one to four showers a day, some of them very hard ones. It is impossible to make hay or do any farm work. We have about one-third of a usual basswood bloom, and it is open now.

The season is far advanced, the honey season is almost over, and our hives are not full—yea, they lack a good deal of it. May the American Bee Journal still come, and we will hope for a better crop next year.
Grant Co., Wis., July 8. L. G. BLAIR.

Putting Weak Colonies Over Strong Ones

On page 570, in referring to Mr. Bevins' loss of queens when he put 2 weak colonies over at many strong ones, Mr. Hasty says, "The scheme is important enough to justify more reports, large and small." Here is a small one:

Early in April 9 colonies of a little less than medium strength were put over as many stronger ones. For an experiment 6 of the 9 pairs were left in that way till the middle of June, working peaceably in the same supers above the upper brood-nest, and each queen doing her full duty. The other 3 pairs were taken down at the opening of clover, and each pair put into an tenement hive, wide enough to give each queen 5 Langstroth frames on her own side of a bee-tight division board, and covered with a zinc-excluder. They have not only gone through the early harvest, but through a *three weeks' dearth*, and are still occupying the supers in common harmoniously. I consider that in this report 2 things should be noted which may amount to conditions: First, the bees used were pure 3-banded Italians, and Second, The upper colonies were strong enough to cover fairly well 3 Langstroth combs. I could not be confident of success with hybrids, and should expect a pint of dysentery-stricken bees to lose their queen regardless of purity or race. It may be well to say that the 6 pairs worked one above the other were on frames $5\frac{3}{8}$ inches deep, and the 3 worked in tenement hives are on Langstroth frames. E. W. DIEFENDORF.
Cooper Co., Mo., Aug. 12.

"Honey, Honey Everywhere"

I never could see much difference in the honey-flow one year with another in this vicinity during the past 16 or 17 years. Every year seemed to be about the same. Some years the fall flow would be good and the spring flow light. Other years the spring flow would be the better. But this year is an exception right through.

I started the season with 271 colonies and did not have over 30 swarms. The fact of it is the bees did not have time to swarm. The season started with a little robbing among themselves, and they cleaned out a few of the neighbors' hives. Then fruit-bloom started, and I noticed that the bees were humming quite loudly. I got the surplus boxes on nearly all, and the fruit-bloom lasted about 2 weeks. By this time the most of the colonies had their supers finished and one colony had 2 completely finished. Then the raspberry and white clover flow started. I run out of sections as I wasn't expecting such a flow, but I have a horse-power machine for making hives and I cut out chunk-honey frames for the surplus boxes. I cut out pieces $1\frac{1}{8}$ inches wide, and just so they would drop inside of the end-bars of the section-holders, and tacked a piece of tin about one inch square on each end to keep them from dropping down, the tin resting on top of the end-blocks of the section-holders. I fastened the foundation on these top-bars by nailing a little strip right down on the edge of the foundation.

The flow seemed to get better all the time. The only trouble was to give the bees room enough, and to get the honey off the hives. Some of the colonies built comb on the outside and under the bottom-boards. The basswood flow was splendid, and there is a heavy buckwheat flow on now. I have honey piled up everywhere. Butter tubs are full; I bought all the barrels in the 3 nearest towns, and they are full; I built a large tank; the honey-house is piled full of supers clear to the top, and there must be 700 or 800 full supers on the hives that should be taken off at once. There would surely be a drop in the New York market if I shipped all this honey at one time, but there is no danger of that, as it will take me from now until next spring to get it all weighed! I can't sleep nights for dreaming about automobiles, big iron tanks, and bees. WM. KERNAN.
Sullivan Co., Pa., Aug. 9.

CONVENTION NOTICE.

National.—The International Fair is to be held in San Antonio, Tex., Oct. 21 to Nov. 1. When this Fair is in progress there are very low rates in force on the railroads out for 600 or 700 miles. Then there are harvest excursions from the North on the 2d and 4th Tuesdays of the month. The 4th Tuesday in October comes on the 24th. Considering these facts, it has been decided to select Saturday, Oct. 28, as bee-keepers' day at the Fair. This will give ample time for members from the North to reach the city by starting the 24th. The regular sessions of the convention will begin Monday, Oct. *30, and continue three days.*

The headquarters of the National Association will be at the Bexar Hotel (pronounced Baer, long sound of a), corner of Houston and Jefferson Sts., and rates are only $1.00 a day, and up. The convention will be held at Elks' Hall, 125 W. Commerce St., only two blocks from the Bexar Hotel.
Flint, Mich. W. Z. HUTCHINSON, *Sec.*

Honey and Beeswax

CHICAGO, Aug. 18.—The demand has absorbed all the offerings of fancy and A No. 1 grades of white comb honey at 14c, while No. 1 has sold at 13@13½c. No call at present for other than the best grade, it really being difficult to place what ordinarily is called No. 1. Extracted, white, 6@7c; amber, light and dark, 5@6c. Beeswax, 28c. R. A. BURNETT & CO.

ALBANY, N.Y., July 26.—There is some call for honey, new crop, and if here would probably sell for best prices of season, as the general impression is there will be a large crop. White comb honey will start off at 15c to early buyers. H. R. WRIGHT.

KANSAS CITY, July 20.—New comb honey has made its appearance; fancy white in 24-section cases selling at $2 75 per case; No.1 at $2.50, and good demand. There is no new extracted in as yet, market on old stock being quotable at from 5@6c. Beeswax, 25@28c. C. C. CLEMONS & CO.

CINCINNATI, Aug. 18.—The heavy requests for offers on honey recently, have a tendency to lower the prices. We are striving hard to maintain good prices, by giving our friends more than their honey is worth, to hold up the market. So far we have been successful. Still offer extracted honey as follows; Amber in barrels and cans at 5¼@6½c, respectively. White clover at 7@8½c. We feel that lower prices will prevail in the near future.

Comb honey is coming in quite freely. We quote fancy white comb honey at 12@15c. The arrival of Western car-load shipments of comb honey is anticipated daily, after which the market will be shattered as to prices. Beeswax, 26c. THE FRED W. MUTH CO.

DENVER, June 26.—The demand for both comb and extracted honey is light at present, and there is enough of old stock on hand yet to last until the new crop comes in; the same is selling as follows: No. 1 white comb, per case of 24 sections, $2@$2.20; No. 2, $1.75@$2. White extracted, 6½@7½c per pound. Beeswax, 26c. THE COLO. HONEY-PRODUCERS' ASSN.

NEW YORK, Aug. 18.—No new comb honey on the market as yet, and very few inquiries so far. Extracted is in fairly good demand and we quote: California at from 5½@7c per pound, according to quality and quantity. Southern in barrels from 5@65c per gallon. Beeswax remains steady at 29c per pound. HILDRETH & SEGELKEN

PHILADELPHIA, Aug. 7.—Some honey arriving, with prospects of a good crop all through the East, but no call for comb honey during the hot weather, so that prices are not as yet established. Extracted honey arriving freely. We quote as follows: Fancy white, 7@8c; amber, 6@7c. Beeswax, 27c.

We are producers of honey and do not handle on commission. WM. A. SELSER.

CINCINNATI, O., Aug. 8.—There is no demand for comb honey on account of the warm weather. Extracted is in usual demand for this season of the year. We quote white clover at 7@8c; amber, in barrels, at 5½@5½c; in cans, 5½@6c. Beeswax, 28c. C. H. W. WEBER.

SAN FRANCISCO, Aug. 9.—White comb, 1-lb-sections, 9@10 cents; amber, 7@8c. Extracted, water-white, 5@5¼c; white, 4½@5c; light amber, 4@4½ cents; amber, 3½@4c; dark amber, 2½@3c. Beeswax, good to choice, light, 27@29c.

The honey market shows little change this week. All dealers have large stocks and all new arrivals show an excellent quality. White honey which has been received in this market is of a very superior quality and is meeting with a fair demand. Prices are being held at the figures quoted, though trading is very light.